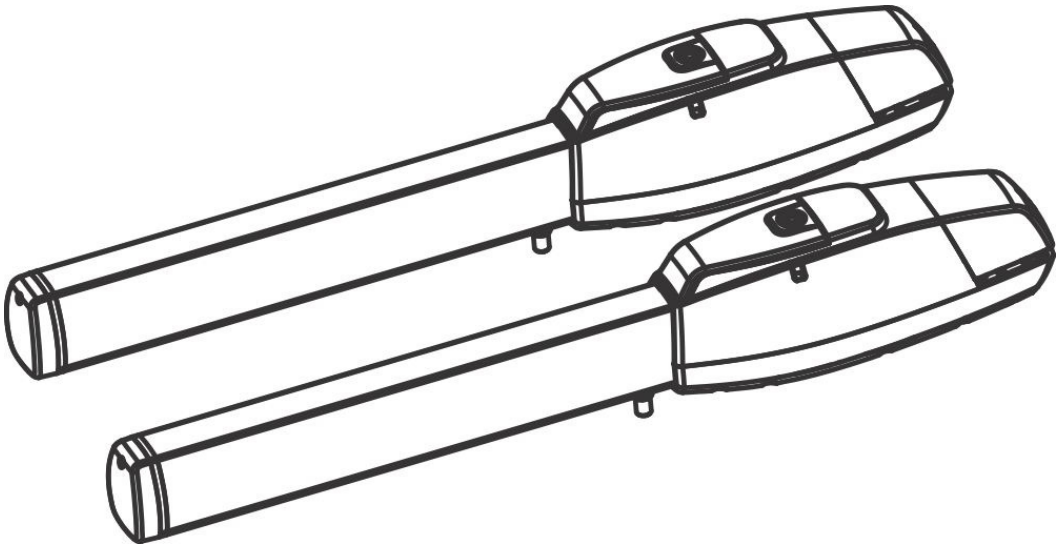
ELSEMA INTELLIGENT SWING®

iS300 / iS300D / iS300Solar

SWING GATE OPENER

USER MANUAL



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1.1 GENERAL PRECAUTION

WARNING:

This user manual is only for qualified technicians who are specialized in installations and automations.

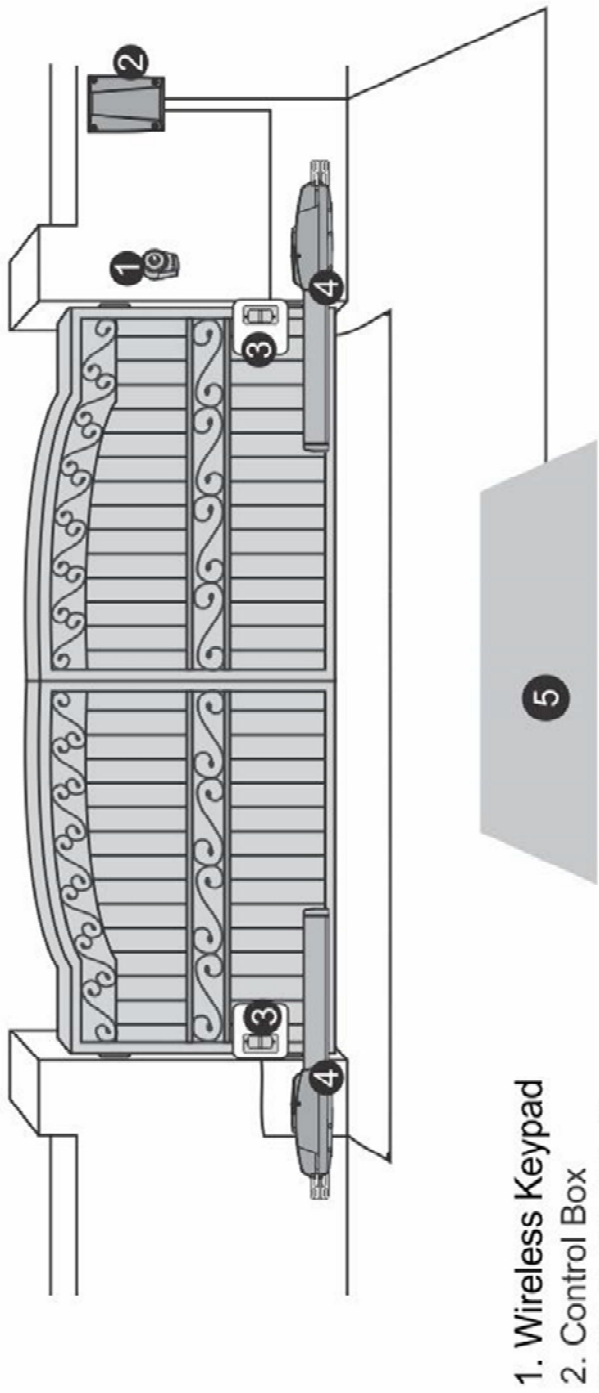
1) All installations, electrical connections, adjustments and testing must be performed only after reading and understanding of all instructions carefully.
2) Before carrying out any installation or maintenance operation, disconnect the electrical power supply by turning off the mains switch connected upstream and apply the hazard area notice required by applicable regulations.
3) Make sure the existing structure is up to standard in terms of strength and stability.
4) When necessary, connect the motorized gate to reliable earth system during electricity connection phase.
5) Installation requires qualified personnel with mechanical and electrical skills.
6) Keep the automatic controls (remote, push buttons, key selectors.etc) placed properly and way from children.
7) For replace or repair of motorized system, only original parts must be used. Any damage caused by inadequate parts and methods will be not claimed to motor manufacturer.
8) Never operate the drive if you suspect that it might be faulty or will cause damage to the system.
9) The motors are exclusively designed for gate opening and closing application, any other usage is deem inappropriate. The manufacturer will not be liable for any damage resulting from the improper use. Improper usage should void all warranty, and the user accepts sole responsibility for any risks thereby may accrue.
10) The system may be operated in proper working order. Always follow the standard procedures by following the instructions in this installation and operating manual.
11) Only operate the remote when you have the full view of the gate.

ELSEMA PTY LTD shall not be liable for any injury, damage, or any claim to any person or property which may result from improper use or installation of this system.

Please keep this installation manual for future reference.

1.2 STANDARD INSTALLATION

A. STANDARD INSTALLATION

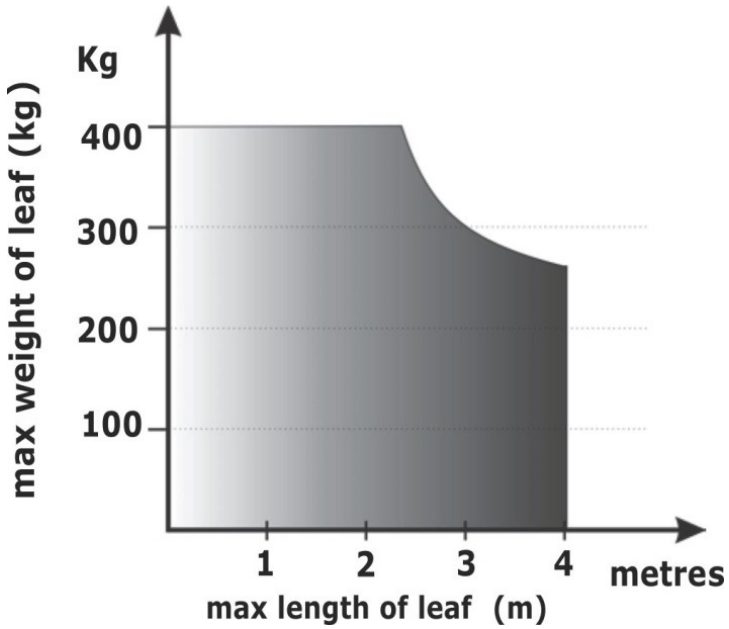


B. CHECKS BEFORE INSTALLATION

Before proceeding with the installation check the following:

1) The maximum gate leaf weight should not exceed the maximum leaf length rating shown in Graph 1.
2) Check that the motor mounting position on the gate pillar can be done with the measurements in Figure 1 and Graph 2.
3) Be sure that gate moves freely.
4) There are no obstacles in the moving gate area.
5) Hinges are properly positioned and greased.
6) There should be no friction between the two gate leafs.
7) There should be no friction with the ground while moving the gates.
8) Check that the gate structure is suitable to install automatic gate motors.

Graph 1



C. INSTALLATION OF REAR BRACKET

Step 1 : Calculate the position of the rear bracket by using the details in Figure 1 and Graph 2. This Figure and Graph establishes dimensions **A**, **B** and the **maximum opening angle**. If your gate is opening 90˚ you can also use values for greater than 90˚ from Graph 2.

Step 2 : Before securing the rear bracket to the pillar check the front bracket can be welded to a solid point on the gate leaf.

- Fully close the gate.
- Connect the rear and front brackets to the motor.
- Hold the rear bracket onto the pillar with the calculated **A** and **B** values.
- Move the motor in a vertical direction until the fixing zone is in a solid area of the gate leaf for the front bracket.

Step 3 : Then fix the rear bracket to the pillar.

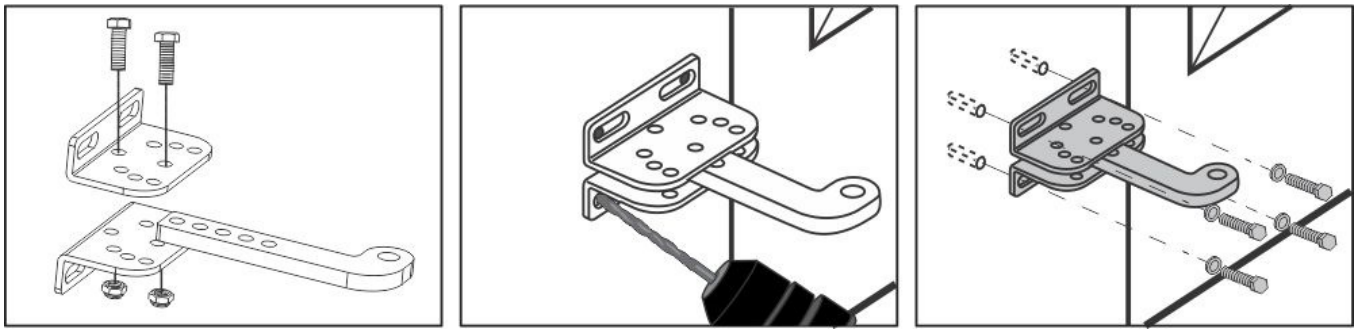
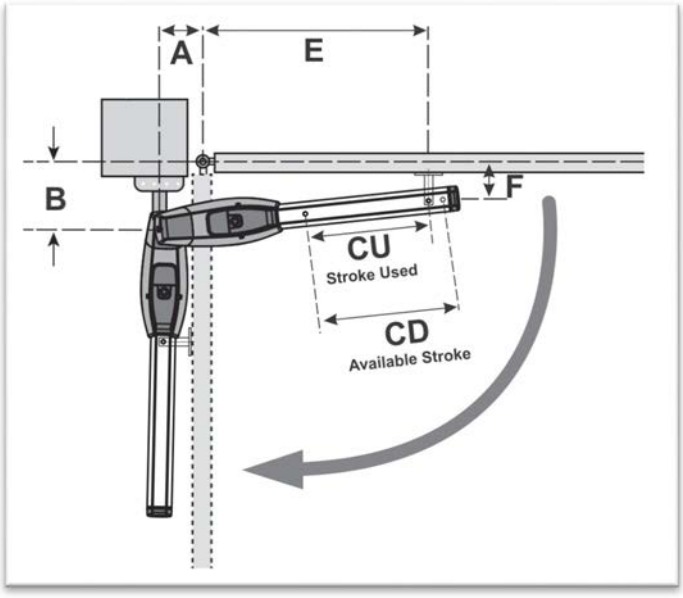
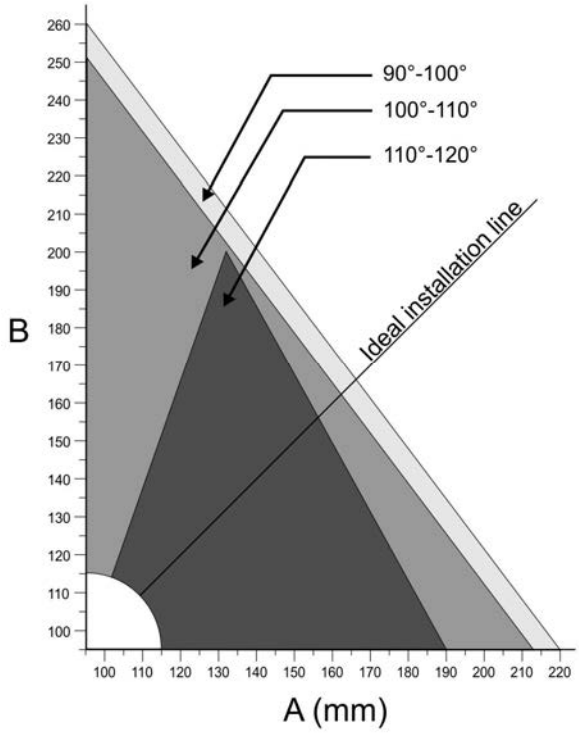


Figure 1



Graph 2



D. INSTALLATION OF FRONT BRACKET

For proper operation, the front bracket should be fixed so the motor has the correct angle. Use Table 1 to calculate the location of the front bracket. Also note that the front bracket is 50mm lower than the rear bracket.

Table 1

A (mm)	**E** (mm)
120	580
130	570
140	560
150	550
160	540
170	530
180	520
190	510
200	500

E. CHECK BRACKET

Secure the motor to the rear and front bracket as detailed in the Motor Fixing section.

Follow the instructions in the Emergency Release section to disengage the motor from the mechanics. You should now be able to move the gate manually. Slowly fully open and close the gate manually. If the gate fully opens and closes the installation of the brackets was done correctly.

INSTALLATION RULES

1. To prevent the operator from over running its maximum and minimum operating limits the operating stroke, **Cu** (Cu= A + B) should always be shorter than the available stroke **CD** which is 350 mm.
2. To achieve 90˚ opening of a gate leaf **A + B = Cu**
3. To achieve more than 90˚ opening of a gate leaf **A + B < Cu**
4. The smaller the values for **A** and **B** the faster the gates will travel.
5. Limit the difference between **A** and **B** to less than 40 mm. Higher difference will vary the gate opening and closing speed.

B must always be greater than **F** when the gate leaf is in the closed position

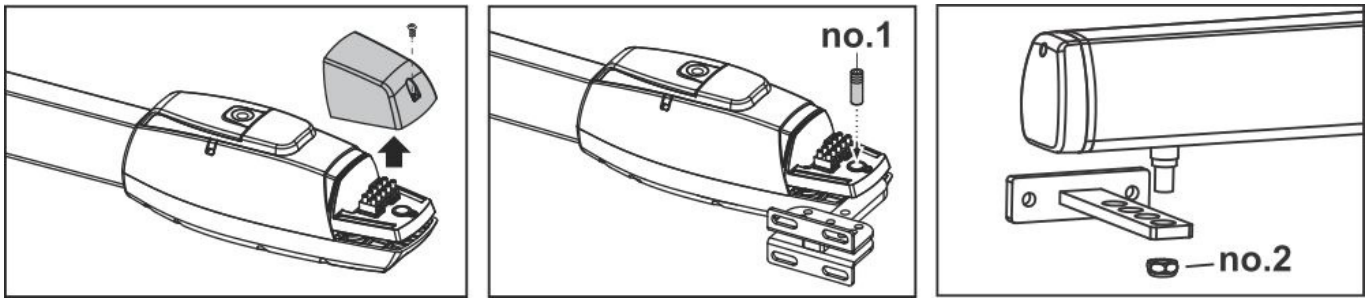
F. MOTOR FIXING

While the motor is disengaged, remove the wire cover and fix the rear bracket with the pin. The pin will slot into the hole with the threaded side up as shown in no.1. No screw is required to hold the pin in place. Attach the front bracket to the drive unit with the nut provided as shown in no.2.

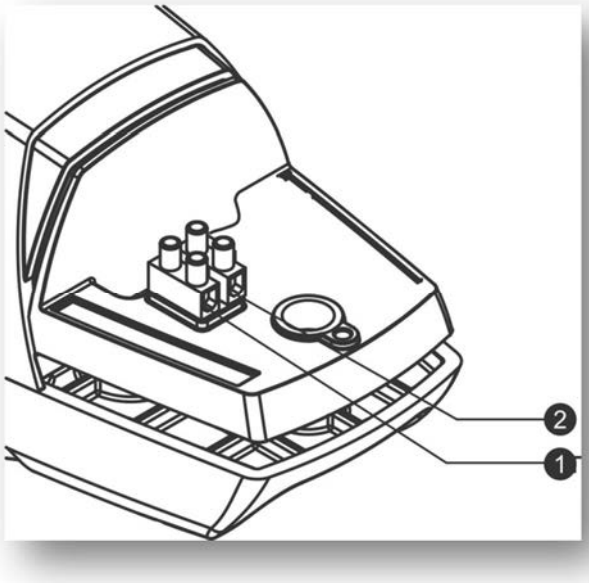
Make sure the iS300 is mounted in a horizontal position, especially in these positions:

1) Gate in “CLOSE” position
2) Gate in “OPEN” position
3) Gate at “45° angle” position

Prior to welding the bracket on the gate leaf(if necessary), cover the gate opener to prevent damages from sparks.



G. WIRE CONNECTION



To connect the iS300 with the control unit

1	White	Motor (+)
2	Yellow	Motor (-)

Avoid tension in the cable during opening and closing cycles

H. EMERGENCY RELEASE

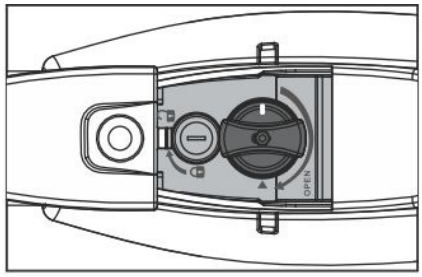
In case of power failure, slide the lid of the manual release chamber forward. Insert the key and turn clockwise to unlock, and then turn around the knob to release.

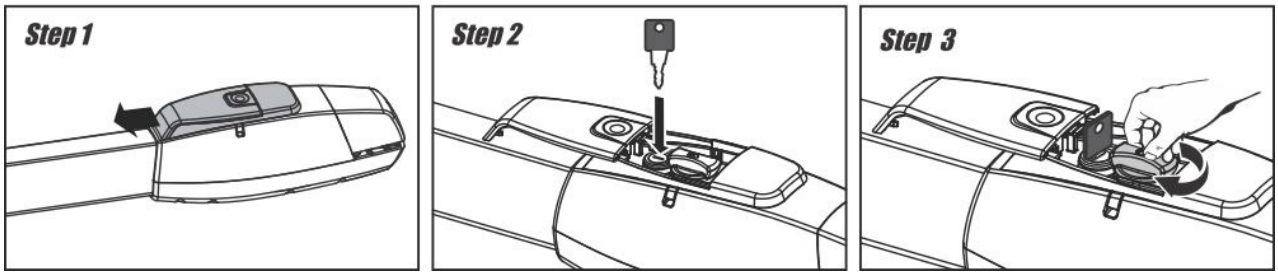
Step1. Slide the lid of the release chamber forward

Step2. Insert the key and turn clockwise into the unlock position

Step3. Then turn the knob clockwise to release the motor.

Make sure the white bar on the knob is on the position opposite to the triangle indicator.
To restore the automation, simply reverse the above procedure.





I. MECHANICAL STOPPER ADJUSTMENT

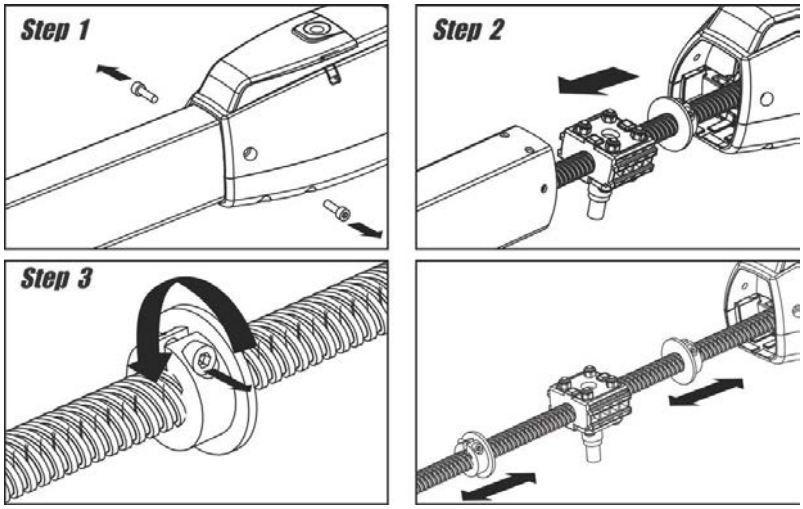
To adjust mechanical stoppers, follow the steps below:

Step1. Remove the screws from both sides of the motor cover

Step2. Push the front external tube forward separating it from the motor base

Step3. Release the screw on the mechanical stopper to change the position

* The position of the front and rear mechanical stopper indicates the fully Open/Close positions of the gate.



J. ELECTRICAL CONNECTION

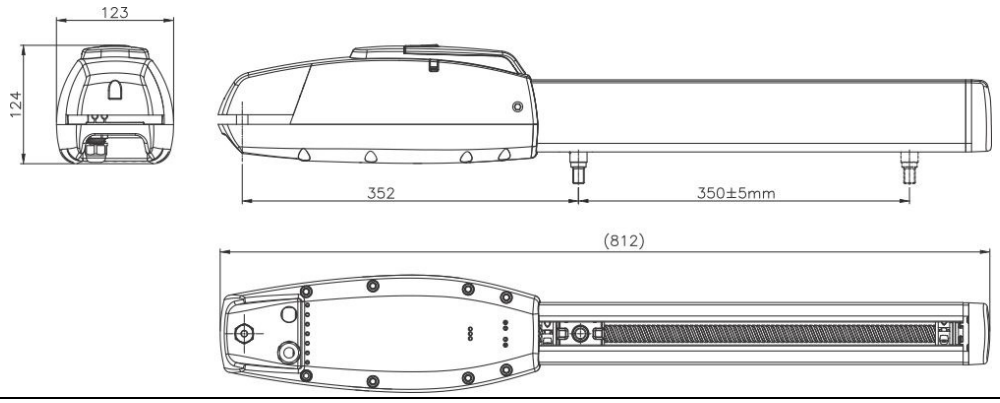
After successful motor installation, refer to the user manual of the control card for automatic operation setup.

1.3 TECHNICAL FEATURES:

A. Technical Features:

Motor Voltage	**24Volts DC motor**
Gear Type	**Worm gear**
Max Absorbed Power	**144 Watts**
Peak Thrust	**3000N**
Nominal Thrust	**3000N**
Stroke Length (CD)	**350mm**
Power Supply	**240 Volts AC**
Nominal Input Power	**2 Amps**
Maximum Operating Current	**5.5 Amps for maximum 10 sec**
Maximum Gate Weight	**300 kg per leaf**
Maximum Gate Length	**3 metres**
Duty Cycle	**20%**
Operating Temperature	**-20℃ ~ +50℃**
Dimension	**812mm x 123mm x 124mm**
Weight	**6.6 kg**

B Dimension:



1.4 MAINTENANCE:

Maintenance should be performed at least every six months. If it is used in high traffic area, a more regular maintenance should be performed.

Disconnect the power supply:

(1) Clean and lubricate the screws, the pins and the hinge with grease.
(2) Check the fastening points are properly tightened.
(3) Check and make sure that the wire connections are in good condition.

Connect the power supply:

(1) Check the power adjustments.
(2) Check the function of the manual release
(3) Check the photocells or other safety device.

Service History

Date	Maintenance	Installer

- **Solar kits**
- **Solar panels**
- **Backup batteries**
- **Photo electric beams**
- **Magnetic locks**
- **Wireless keypads**
- **Pre formed loop**

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